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Att. Docket No. 10746/17

Reply to Office Action of November 6, 2003

REMARKS

Claims 55 to 68 are added, and therefore claims 1 to 4, 6 to 10, 12 to 22, 24 to 26, 28, 29, 31 to 38, and 40 to 68 are now pending.

Applicants respectfully request reconsideration of the present application in view of this response.

With respect to paragraph two (2) of the Office Action, Applicants thank the Examiner for allowing claims 3 and 33.

With respect to paragraph four (4), claim 23 was objected to as not having been canceled in the claim listing. Accordingly, claim 23 is canceled from the claim listing, without prejudice. It is therefore respectfully requested that the objection be withdrawn.

With respect to paragraph six (6), claims 1, 24 and 31 were rejected under 35 U.S.C. § 103(a) as unpatentable over Xu et al., U.S. Patent No. 6,363,163, in view of Liu et al., U.S. Pat. No. 6,023,635.

The Office Action essentially admits that the projection image of the claimed subject matter is not disclosed by the Xu reference, but asserts that the secondary Liu reference suggests the projection image of the claimed subject matter.

In this regard, the secondary Liu reference refers to a method of MIP (Maximum Intensity Processing), as referred to at column 3, lines 49-64, for example. An MIP image is a projection of a three dimensional volume. As asserted in the Office Action, the secondary Liu reference indicates that radiologists prefer viewing projection images rather than slice images in analyzing medical images. The Liu reference, however, only indicates that projection images may be used in analyzing medical images, but it does not in any way disclose or suggest that the projection image can be used to correct a slice position, as recited in the context of the claimed subject matter. The benefit provided is that the corrected slice position may be used to find corresponding slice images. The primary Xu reference only refers to a method to compare sections one-by-one to find a pair of the best-matched section images. Accordingly, even if the references are combined (the properness of which is not conceded), the features of “measuring shift amount” and “correcting the slice position”, as recited in the context of the claimed subject matter are not disclosed or suggested by the

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references relied upon, whether taken alone or combined.

It is therefore respectfully submitted that claims 1, 24 and 31 are allowable (as are each of their dependent claims).

With respect to paragraph seven (7), claims 2, 4, 6, 10, 16 to 19, 25, 26, 28, 29, 32, 34, 38, 44 to 47 and 50 to 54 were rejected under 35 U.S.C. § 103(a) as unpatentable over Xu et al., U.S. Patent No. 6,363,163, in view of the Liu reference, and in further view of Some et al., U.S. Patent No. 5,841,148.

It is respectfully submitted that each of the independent claims are not obvious in view of the Xu reference for essentially the same reasons that claims 1, 24 and 31 are not suggested, as referred to above, since the third-level Some reference does not cure the critical deficiencies of the primary Xu reference and the secondary Liu reference, as explained above. It is therefore respectfully submitted that all of the independent claims (and their respective dependent claims) are allowable for essentially the same reasons as claims 1, 24 and 31.

With respect to paragraph eight (8), claims 7, 8, 12, 35, 36 and 40 were rejected under 35 U.S.C. § 103(a) as unpatentable over Xu et al., U.S. Patent No. 6,363,163, in view of Liu, and in further view of Some et al., U.S. Patent No. 5,841,148, as applied to claims 2, 4, 6, 10, 16 to 19, 25, 26, 28, 29, 32, 34, 38, 44 to 47 and 50 to 54, and in further view of Moshfeghi, U.S. Patent No. 5,368,033.

It is respectfully submitted that each of the independent claims are not obvious in view of the Xu reference for essentially the same reasons that claims 1, 24 and 31 are not suggested, as referred to above, since the Liu and Some references and the third-level Moshfeghi reference do not cure the critical deficiencies of the primary Xu reference. In this regard, the Office Action only relies on Some and Moshfeghi for other features and not for the features discussed above that plainly distinguish the Xu reference. It is therefore respectfully submitted that all of the independent claims (and their respective dependent claims) are allowable for essentially the same reasons as claims 1, 24 and 31.

With respect to paragraph nine (9), claims 9, 22 and 37 were rejected under 35 U.S.C. § 103(a) as unpatentable over Xu et al., U.S. Patent No. 6,363,163, in view of Liu and Some et al., U.S. Patent No. 5,841,148, as applied to claims 2, 4, 6, 10, 16 to 19, 25, 26, 28, 29, 32,

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34, 38, 44 to 47 and 50 to 54, and in further view of Jang et al., U.S. Patent No. 5,862,249.

Claims 9, 22, and 37 respectively depend from claims 6, 10, and 34 which are not described or suggested by the primary, secondary or third-level references, as explained above, and are therefore allowable for the same reasons as their respective base claims, since the fourth level “Jang” reference does not cure the critical deficiencies of the primary, secondary or third-level references. Accordingly, it is respectfully requested that the obviousness rejections be withdrawn.

With respect to paragraph thirteen (13), claims 13 to 15, 20, 21, 41 to 43, 48 and 49 were rejected under 35 U.S.C. § 103(a) as unpatentable over Xu et al., U.S. Patent No. 6,363,163, in view of Liu and Some et al., U.S. Patent No. 5,841,148, as applied to claims 2, 4, 6, 10, 16 to 19, 25, 26, 28, 29, 32, 34, 38, 44 to 47 and 50 to 54, and in further view of Kano et al., U.S. Patent No. 5,359,513.

Claims 13, 14, 15, 20, 21, 41, 42, 43, 48 and 49 respectively depend from claims 10, 10, 10, 6, 10, 38, 38, 38, 34 and 38 which are not disclosed or suggested by the primary, secondary or third-level references, and are therefore allowable for the same reasons as their respective base claims, since the fourth level “Kano” reference does not cure the critical deficiencies of the primary, secondary or third-level references. Accordingly, it is respectfully requested that the obviousness rejections be withdrawn.

As further regards all of the above obviousness rejections, to reject a claim as obvious under 35 U.S.C. § 103, the prior art must describe or suggest each claim element and it must also provide a motivation or suggestion for combining the elements in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)). Thus, the “problem confronted by the inventor must be considered in determining whether it would have been obvious to combine the references in order to solve the problem”, Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 679 (Fed. Cir. 1998). The references relied upon simply do not address the problems (referred to in the present application) that are met by the subject matter of any of the rejected claims, or provide the benefit that the corrected slice position may be used to find corresponding slice images, as

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explained above.

In summary, it is respectfully submitted that claims 1, 2, 4, 6 to 10, 12 to 22, 24 to 26, 28, 29, 31, 32, 34 to 38, and 40 to 54 are allowable at least for the foregoing reasons -- like allowed claims 3 and 33.

New claims 55 to 68 do not add any new matter and are supported in the specification. These claims respectively depend from independent claims 1, 2, 4, 6, 10, 24 to 26, 28, 29, 31, 32, 34 and 38, and are therefore allowable for the same reasons as their respective base claims. It is respectfully submitted that the further feature of these claims is not disclosed or suggested by the references, since they do not disclose or suggest the feature in which the "first projection image and the second projection image are used to find a comparison image whose slice position corresponds to a slice position of a diagnostic image", as recited in the context of each of claims 55 to 68. Accordingly, claims 55 to 68 are allowable.

Accordingly, claims 1, 2, 4, 6 to 10, 12 to 22, 24 to 26, 28, 29, 31, 32, 34 to 38, and 40 to 68 are allowable at least for the foregoing reasons -- like allowed claims 3 and 33.

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CONCLUSION

In view of all of the above, it is believed that the objection and rejections have been obviated, and that claims 1, 2, 4, 6 to 10, 12 to 22, 24 to 26, 28, 29, 31, 32, 34 to 38, and 40 to 68 are allowable -- like allowed claims 3 and 33. It is therefore respectfully requested that the objection and rejections be reconsidered and withdrawn, and that the present application issue as early as possible.

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Respectfully Submitted,
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